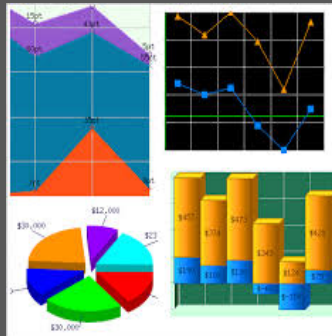


New Hampshire Department of Education

Data Systems Overview: a focus on Student Level Data Systems and Privacy



Data Use

Data Privacy



Balancing Data Use and Privacy
to Help Students Succeed

for more information, contact the NH Department
of Education - (603) 271-3494

DATA STUDENT USE PRIVACY

December, 2014

Executive Summary

The New Hampshire Department of Education (NH DOE) is a national leader in our collaboration at the local school level to have educators in our K-12 schools use data to inform instruction. Educators use data to identify gaps in curriculum and assessment; to gauge individual student needs and target learning; to group students for instruction and to assist student learning in many other ways. NH DOE has built an infrastructure and a culture that values the use of data. Our culture highlights the use of multiple measures and student growth to help guide the learning of students. Our practices promote a cooperative culture with the primary focus on the improvement of students, as a collective goal, with a secondary need for accountability to identify cases where student needs are not being served.

Student data is driving instruction within our schools, but many different stakeholders throughout the state also use student aggregate data to make critical decisions. School funding is driven based on student data or demographics in each town and school. Parents make decisions about where to live based upon available school data. Education and legislative experts advocate for policy and programmatic decisions based upon aggregate data.

Driven by legislation established by the NH legislature in 2004, the NH DOE built an information technology (IT) infrastructure and a support structure dedicated to building a data driven culture, enabling stakeholders throughout the state to make educational decisions based on data. The IT infrastructure incorporates both security and privacy. Security by protecting the system and the data from unwanted actions of unauthorized users and privacy by ensuring that the right people have access to the right data. The infrastructure has a narrow focus in regards to the scope of data included. ***New Hampshire's efforts are built on the guiding principle that we need to help teachers and the public use and understand existing data with a focus on multiple assessment measures, and that we do not collect data for the sake of quantity. A successful solution is not about building an ever-expanding source of data, but rather focusing on the critical data needed to inform great teaching.***

The NH DOE has developed policies, processes and procedures as described in this document to meet the goals outlined above. This document will walk you through a historical summary describing the evolution of today's system; a summary of what data is collected and used by

schools and the public (both data maintained in the State Longitudinal Data System (SLDS) as well as the other DOE databases); a review of the technology used to secure the data and a summary of the training and ongoing efforts to develop a data rich culture in New Hampshire.

For more information, please contact the NH Department of Education and ask for the Division of Program Support.

As described, this document is divided into five sections:

1. Historical Review - Evolution leading to the current NH DOE data systems

2. Summary of Collected Data

3. Data Security and Privacy

4. Data Sharing and Training - Building a Data Rich Culture

5. Contacts

1. Historical Review - Evolution leading to the current NH DOE data system .

Prior to 2004, the data collections for all students in the state were based on aggregate reports submitted by districts and schools. For example, schools provided “Total Number of student transferring to another NH Public School” or “Total Number of students who graduated” or “Total Number of white students who dropped out”, etc. In 2005, the DOE embarked on a student level data collection that today can be used to answer these and many other questions. Most of the aggregate enrollment, drop-out and related reports are no longer collected from schools. The reports are generated from the new student level data.

Three primary drivers for this transition to student level data included improved reliability/validity of the data, reduced data submission for schools and finally the ability to connect data required to answer more complex questions and help schools drive student instruction.

With aggregate data collections it was evident that the data lacked quality. For example, we might have reports from schools indicating there were many more students transferring to another public school, than the number of students arriving from a public school. Although, this type of data inaccuracy was identified, it was not possible to zero in on the cause of the data error. With a student level data collection we are now able to identify the record in error and ask the school to correct the error. The first year of the student data collection, we identified about 400 students who were being reported by two schools as enrolled full-time in both schools. With a student level data collection we were able to resolve these types of errors and eliminate any double-payments that might have occurred as a result of paying both schools for the same student.

Prior to the student level collection, schools had to aggregate data for the Department and report the aggregates by required subgroups. For example, they would have to breakdown enrollment by gender, race, etc. With student level collections, the Department can now do the aggregation. For example, we already know a student’s gender or race, so by identifying attendance we can automatically aggregate the enrollment data by race and gender. Additionally, as more complex analysis is required we do not have to ask schools for additional data. For example, the NH DOE was able to provide answers to the state legislature when asked to estimate the impact of potential legislation that would offer aid to

schools for students ‘who did not demonstrate reading proficiency and were also not on an Individual Education Plan or eligible for free or reduced support. Without the individual student data we would have been unable to perform this analysis. We would have had to ask schools to summarize and submit the data themselves.

As just described we can now perform more complex analyses. But perhaps more important than the above improvements, school educators can leverage this data to inform instruction. Schools across the state are driving instruction as a result of analyzing student data. They are looking at the impact of education programs on student results. Educators are identifying needed interventions based upon student performance. Schools are beginning to create student learning objectives (SLOs) that rely on this data to monitor educator performance in light of student success. The high quality data is enabling legislators to make policy decisions, educators to modify instruction, public citizens to explore and compare school results, and the state to hold schools accountable for student results.

Even though 2005 was the first time the NH DOE collected student level data for all students, the Department has been collecting individual student data about subgroups of students for decades. This has been and remains vital to ensure students receive the required funding and services from schools and from the state. For example, our Vocation Rehabilitation program offers vocational services to individuals including many student age clients. To provide services, the program maintains information about their clients. These clients choose to participate in the program and receive services. The same is true for other subgroups of students such as English Learners and Special Education Students - these groups also receive services and the NH DOE must ensure schools are serving these students appropriately. Separate data systems are used to manage these programs.

Table 1: List of State Law Related to Student Data Collection (State Longitudinal Data System (SLDS))

Description	Law
Delivery of an Adequate Education: requires reporting of aggregate data	193-E:3
Student Level Collection Definitions: defines student data warehouse	193-E:4
Unique Pupil Identification: creates requirements for management of student data	193-E:5
Data Inventory and Sharing: refines privacy, security and transparency requirements	189-65 to 189-68

2. Summary of Collected Data

As an outgrowth of SB 333 in 2004 (RSA 193-E:5), the NH Department of Education launched the Initiative for School Empowerment (i4see) and developed a data system funded by federal grants including a Statewide Longitudinal Data System grant (SLDS). This SLDS is the origin of today's state-wide student level data warehouse. This database contains de-identified student level information for every publicly funded student. As described above, this information is used to determine school funding, to hold schools accountable for an adequate education, to inform legislative policy and to help schools improve instruction.

In addition to this student collection for all public students, there are many additional collections of student subgroups within the state. For example, the state is required to ensure all students eligible for special education services receive appropriate services, or students eligible for vocational rehabilitation schools are identified so that the state can provide available services. The NHAImS system allows families of students who are blind to obtain support materials. These additional collections often carry personal information such as home address so that appropriate services can be provided. However, for the larger general collection this personal data is not required and therefore personal information (as prescribed by state law), is not collected for the SLDS.

The table below identifies the primary systems used at the DOE to manage student data. It highlights the purpose and primary authorizing law. In addition to the databases below, the NH DOE also maintains a random number generator that generates a unique pupil identifier (aka. SASID - state assigned student identifier) for each student. Additionally a database maintains an isolated and encrypted key that allows the connection between name and student identifier. This is accessible only by the schools educating the student, as well as, a small number of identified NH DOE employees who are named by the commissioner and work with schools to ensure the quality of the data. These systems are governed by RSA 193-E.

The following collections are maintained as part of the NH Department of Education Data System.

Collection / 2015 DOE Data Contact	Description	Purpose	Personally Identifiable and Personal Data as defined in RSA 189:68 Student Privacy.	Additional Data	Authorizing State or Federal Law (not comprehensive, but identifies primary legislation)
i4see Data Collection & SLDS	The i4see data collection is a series of student level data submissions that schools submit to the DOE throughout the year. These submissions are provided with a student ID and with the exception of date of birth, no other personally identifiable data is included. Submissions include beginning of the year, end of year, students eligible for free and reduced lunch/milk, and classroom rosters. The SLDS then combines the i4see data with other program data required to meet state and federal laws.	<ul style="list-style-type: none"> • calculation of adequacy aid funding • state reporting • school accountability • legislative considerations • parent access to aggregate data • local school / educator improvement • Federal reporting 	i4see: SASID (State assigned student id), date of birth. This system does not contain student names.	i4see: status of enrollment (e.g. living in district), sau, district and school number, town responsible for tuition, district responsible for tuition, student grade, days absent, days in attendance, promoted indicator, type of diploma, post graduation plans, days suspended in and out of school, homeless code, original graduation year, title I involvement, advanced placement course, eligibility for free or reduced priced meals, course assignments. SLDS: additional data incorporated into the SLDS includes very basic information from programs described below. None of this data is personally identifiable. Data includes (English as Second Language)ESOL status, career and technical education involvement, post-secondary	<p>Delivery of an Adequate Education: 193-E;</p> <p>Data Inventory and Sharing: refines privacy, security and transparency requirements 189-65 to 68.</p>

status, special education status, migrant status and state assessment results.				
NH AIM	<p>The NH Accessible Instructional Materials system allows individuals to borrow American Printing House for the Blind (APH) materials and products purchased through the Federal Quota Program for New Hampshire blind and visually impaired students eligible under the Federal Act to Promote the Education of the Blind.</p> <p>The personal information is required to send the materials to the individual requesting the support. This service is optional.</p>	<ul style="list-style-type: none">• To provide support instructional materials for families in need.	Name, date of birth, address (optional).	Materials being requested.
ESOL Data Collection	<p>This data collection is only for students who are eligible for English language services (EL Services). A roster of</p>	<ul style="list-style-type: none">• calculation of adequacy aid funding• state reporting• school	SASID, country of origin.	SAU, district, school, month/year entered US Schools, years of foreign education, primary language, program status, enrollment

students is collected in October and February.

- accountability
- federal requirement to ensure students receive services
- legislative considerations
- parent access
- local school / educator improvement

status, classroom setting, results from ACCESS for ELLs test, title III information, proficiency and improvement Status (y/n).

Adult Education

The NH Adult Education Data System requires submissions from local adult education programs funded by NH Department of Education. Adult learner information is entered at the time of registration and updated throughout the year. Local adult education center directors and their designated data entry staff can see information about students enrolled in their programs but cannot access personal information about

- Federal reporting
- Provide direct support to students
- Program reporting

Date of birth, name, address, telephone, country of origin.

Race, employment status, employer, highest previous education, pre-test scores or high school credits, program enrollments, class enrollments, dates of enrollment and termination, post-test scores or high school credits, correctional connection, hours of attendance, attainment and date of high school diploma or equivalency, postsecondary enrollment, referring agency, disabled, public assistance, IEP, 504 Plan, income level, student goals.

students enrolled at other centers. State adult education personnel have access to consolidated state reports that summarize data but do not include individual student information.

Food Stamps	Students living in households eligible for food stamps are automatically eligible for free or reduced lunch in school. This data is used to ensure schools offer the required meals and receive the available federal and state funding.	<ul style="list-style-type: none"> • State Aid • Federal Aid • Accountability reporting 	SASID	Eligibility for Free or Reduced priced meal.	
Assessment Data	Students are assessed as part of the state and federal accountability laws. The students are assessed in grades 3-8 and 11.	<ul style="list-style-type: none"> • State Accountability • Federal Accountability • State adequacy funding 	None	Student Assessment ID; Math, ELA and Science assessment data.	Federal NCLB and State Accountability (RSA 193-C) data.
Migrant Data	Migrant students receive direct service, supplemental instructional	<ul style="list-style-type: none"> • Federal Reporting • Case Management 	Name, DOB, family address, birthplace	Gender; residency date; qualifying arrival date; parent profession; race; grade;	Federal Title I-C

	support in areas such as math and reading and instructional materials. These students provide consent to share data and receive services.			limited English; IEP; priority for service; school district	
Special Education	Students receive special education services when needed. This system is made available to districts to manage the special education evaluation process, to oversee service delivery and to ensure compliance. Parents or guardians must consent to all evaluations and determination to receive services.	<ul style="list-style-type: none"> Federal reporting State reporting Adequacy funding Case Management by local district 	Name, address, student identifier, parent name, address, telephone, contents of Individualized Education Program (IEP)	Assessments, student demographics, outcome decisions, IEP	Code of Federal Regulations 300, State RSA 186
Vocation Rehabilitation	Vocation Rehabilitation New Hampshire Vocational Rehabilitation has a case management system (CMS) (after July 1 st 2015 it will be the AWARE case management system) that documents data elements to assist	<ul style="list-style-type: none"> Case management Federal reporting Employment verification Continuous improvement through data analysis for the agency 	Name, address, phone number, SSN, income (public benefits), DOB, signature of parent/guardian (if a transitioning youth) Other information collected for case	Case Management: Gender, Impairment / Disability, educational history, previous case histories, criminal background, Name, address, phone number, SSN, income (public benefits), DOB, signature of parent/guardian (if a transitioning youth) and	Department Of Education, 34 CFR Part 361, State Vocational Rehabilitation Services Program ED 1000 VR State Administrative Rules

individuals with disabilities in obtaining and maintaining employment. The agency collects information for federal reporting and for case management purposes. Customers applying for services provide their consent in a formal application (VR-1) to collect this data.

management includes work history, criminal background.

school contact documentation by transition counselors.

Employment verification: Work history, job goal selected, services required for job goal attainment, employer contacts and on the job supports.

Service Delivery: Documentation of the services provided to our customers such as authorizations, purchase orders and invoices.

Career and Technical Education

Students in NH public schools can participate in the career and technical education program. These high school programs help students develop skills in areas such as culinary arts, automotive and construction.

- Federal reporting required for federal aid
- State reporting required for state aid
- Program oversight

SASID, physical address, telephone, DOB

Course information, program information such as enrollment, an indicator of work, an indicator if single-mother, and teacher assignment data

Federal Perkins law, PL109-270.

3. Data Security & Privacy

[Note: please click on embedded links to view details about the given laws]

The NH Department of Education (NH DOE) has worked along-side the NH State Legislature to ensure there are appropriate protections to provide security and privacy of the individual student data systems. At a federal level the Family Educational Rights and Privacy Act (FERPA) provides protections limiting access to personal student data. Federal program laws provide additional protections, for example, special education-Individuals with Disabilities Education Act, free and reduced lunch, career and technical education. NH State law further restricts the data that can be shared and the manner in which it can be shared. The sharing of data in the state-wide student collection is protected by RSA Section 193-E:5 Unique Pupil Identification, HB 1587 passed in 2014, and other state laws. The NH DOE created a frequently asked questions document to provide answers to commonly asked questions.

Guiding practices have been implemented by the Department of Education, as defined by the following laws ...

1. **Identifiable student data is for the use of the institutions educating the students (e.g. K-12 schools, NH postsecondary institutions and preschools).**

As described above, the State Longitudinal Data System (SLDS) and i4see system collect student level data that is used for many purposes (e.g. adequacy funding, school accountability and improvement, etc.). At an individual student level, with student identifiable information, the data is only accessible by the educating institutions. Schools can view their students' information to help improve instruction. Schools and districts use this information to target instruction and improve student learning. This access is limited to the schools educating the students.

NH state law also ensures parents/guardians and students have access to their own data through the local school district. Additionally, the law does allow for a small set of individuals at the NH DOE to access student identifiable data, solely for the purpose of helping schools ensure the accuracy of the data. Public access to student data is only at the aggregate level. For example, data on graduation and dropouts includes only a summary of the number of students at each school who have graduated or dropped out of school. To ensure aggregate data cannot be associated

with a specific student, aggregate data is suppressed if the number of students falls below a predetermined amount. For example, if we are creating a report on state assessment results by subgroup and there are only 2 special education students in a given school then we will not release the count of the number of special education students who performed at each level on the state assessment test for that school. This is commonly referred to as ‘cell size’ suppression.

De-identified student level data is provided to researchers performing studies that will inform the instruction and accountability of our schools. No personally identifiable information (e.g. student ID, DOB, etc.) is provided to a researcher.

2. Separation of State Assigned Student ID (sasid) and name.

Within the statewide longitudinal data system (SLDS) maintained on the NH DoIT servers, the student data is organized by SASID (state assigned student identifiers). The student’s name is not maintained in the SLDS. State law allows access to name information only by a small number of staff who work with schools to ensure the validity and accuracy of the data. Annually the Commissioner of Education identifies and documents which staff have this level of access.

As described, the SLDS organizes student information by SASID. The NH DOE is required to maintain a ‘Random Number Generator’ that includes the names of students without allowing the name to be connected to the SASID in the SLDS. An encrypted, separate database, identified as the Random Number database, maintains the link (the key) that connects the name and number. The ability to access the link and make the connection is limited to the small number of DOE staff helping with data accuracy and to the LEAs educating the students.

3. Targeted programs require personally identifiable and personal data.

As described in section 2, there are many individual programs at the Department that provide services for students. These individual systems (e.g. Career and Technical Education, Adult Education, etc.), may share personally identifiable information with service providers who are supporting the students. For example, to provide adult education services to students enrolled in alternative programs, the NH DOE must maintain the address of the student to offer these services. In these situations the student has requested the assistance and is working with the NH DOE to receive support. The information collected in these systems is identified within this document.

4. Security and privacy are critical components of the systems.

State and federal laws have been written to ensure the privacy and security of student data. The Department does not use student data outside of the legal requirements and these requirements are limited to the education of New Hampshire students.

Laws include penalties for misuse. The data systems use encryption to protect the data. Data is only released publically in the aggregate and incorporates cell-size suppression to ensure student privacy.

The Department of Information Technology (DoIT) employs security practices to ensure appropriate access to the data. All personally identifiable data requires secure access and is only accessible by local district educators and a small number of NH DOE staff who helps to ensure the quality of the data. These individuals are identified each year by the NH Commissioner of Education.

4. Data Sharing and Training - Building a Data Rich Culture

The Department has developed a secure system to ensure access to personally identifiable data is limited to those who have the legal and appropriate right to the data. De-identified student level data is maintained in a secure location and accessed only by those required to meet state or federal law. Aggregate data is made available to the general public and is used for many purposes - e.g. legislative decisions, research, family education considerations, etc. Finally, de-identified data is made available for research purposes.

Note: this description does not describe access to subsystems, such as the Adult Education system. Access to these systems is maintained by the specific program and access is limited based upon the applicable laws and required access.

1. Secure Access to Personally Identifiable Student Level Data

Identifiable student level data is accessible by the school(s) educating publicly funded students. These schools use this academic data to improve instruction and to differentiate instruction for individual students. For example, school districts may look at student data to determine if a reading program needs to be changed and then to monitor the impact of the new program; a grade level teaching team may consider student data to see which students need additional support and which students need more challenging extensions; a district may develop a local assessment to ensure every student understands key academic subjects; a school may use student data to ensure every student in a vocational education program achieves his/her required learning. All of this data is secure and only accessible to the educators involved in the student learning. The tool PerformancePLUS is a secure hosted system that manages this identifiable data and limits access to the school district educators. This tool allows the schools to view personally identifiable data, along with assessment, demographics and instructional information. With the exception of a few DOE employees who assist schools in validating the quality of the data, this data is not accessible by individuals outside of the school districts.

2. State Longitudinal Data System (SLDS)

The NH DOE maintains a database of de-identified student level data. This database was created to meet the requirements of 193-E:5. This data is the primary source for generating reports used for many critical decisions. The UPIIdentifier (Unique Pupil Identifier database)

and the SLED (Student Level Education Data) databases constitute the SLDS. This system includes the student data that can be aggregated for many needs. For example, this data is used to determine adequacy funding for public schools; it is used to answer legislative questions required to debate house and senate bills; it is used for school accountability and to ensure schools deliver an adequate education; the data is used to develop reports such as drop-out, graduation and enrollment reports; it is used for many other reports and to provide information to all NH DOE stakeholders. The department provides only aggregate data when sharing this information and follows FERPA requirements to ensure student privacy.

Any data breach for this or other systems would be reported per the DOE Department of Information Technology (DoIT) procedures. Since the creation of this document in 2015, no known breaches have occurred.

3. District Profiles & DOE Reports

The Department makes aggregate data available to the general public. This data is accessible via a myriad of tools on our NH DOE website. There are too many reports on the DOE Website to list each report, however, two primary links include:

- The NH Profiles: <http://my.doe.nh.gov/profiles>
- The Data Collections & Reports: <http://www.education.nh.gov/data/index.htm>

Reports include school and district profiles; school and district assessment scores; longitudinal assessment reports; attendance reports broken out by race, gender and grade; drop-out reports; adequacy funding; free and reduced aggregate counts; etc. All of these reports are aggregate so individual students cannot be identified. In fact, if the number of students drops below a minimum cell count, then the data is suppressed to ensure the privacy of the student data.

4. De-identified Student Level Data

The NH DOE does share de-identified student data with researchers for the sole purpose of a defined scope of work. This research is defined in a memorandum of understanding that is signed by the research organization and the Department. Although the data is de-identified, the MOU is required to limit the reporting of small cell size and ensure the security of the data. If there is only one student of a given race in a school or grade it might be possible for the researcher to identify the student if the researcher knew the students in the school.

Due to this potential identification, any researcher who receives data must sign a memorandum of agreement to ensure that the researcher does not release any reports without implementing cell-size suppression. All released reports are reviewed by the NH DOE. Research could include, for example, the breadth of ELO (Extended Learning Opportunities) in the state; the use of suspensions at the school level (not the individual student level); and the equity of school success throughout the state. All data is purged upon the completion of the research project.

Summary

The use of the student data is confined by the laws of NH as well as Federal laws. The NH DOE is cognizant of the need to ensure the protection of student data, while recognizing the importance of transparency and access to aggregate data.

5. Contacts

For questions regarding data use and privacy, please contact:

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